

Serial No. 10/694,348

Docket No. 60892.000016

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**REMARKS**

The subject application is a divisional application of U.S. Patent Application No. 10/694,348, filed October 28, 2003. Claims 1-58 are pending. Applicants thank the Examiner for consideration of applicants' previous arguments regarding the restriction requirement and entry of Applicants' election of Claims 37-51. Non-elected claims 1-36 and 52-58 are hereby cancelled. Applicants reserve the right to prosecute the subject matter recited in the cancelled claims in one or more continuing applications.

Claim 37, from which Claims 38-51 depend, has been amended to recite "a third insult acquisition rate of less than 10 seconds," as supported in the specification by Example 9 and Table 10, pages 43-45. No new matter is presented by the amendment. Accordingly, applicants respectfully request reconsideration of claims 37-51 in light of the following remarks.

As an initial matter, three of the Action's four rejections are based in part upon what the Action alleges is admitted prior art. The Action identifies the specification's section entitled "Description of Related Art" and various pages found in the section entitled "Detailed Description of Preferred Embodiments" as "ADMITTED PRIOR ART."

Contrary to the implication in the Action, no section in the present application admits that anything disclosed therein is prior art. The section entitled "Description of Related Art" includes a discussion of related art, and is not an admission that any of the documents described therein are prior art. Preferred embodiments of the invention found in pages 10-11, 15, 16, and 24 are not admissions of prior art and cannot be relied upon to reject applicants' claims.

On page 2 of the Action, claims 37-51 "are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over ADMITTED PRIOR ART (Specification "Description of Related Art" and pages 15, 16 and 24) or KOLTISKO et al (5,938,993)." Applicants respectfully traverse this rejection.

Pages 15, 16, and 24 of the present specification are not prior art and cannot be relied upon to reject applicants' claims. Applicants assume that the Action is relying upon statements made in the "Description of Related Art" that "[c]ross-linked cellulose fibers and processes of making them have been described in the literature for many years" (pg. 2, ll. 1-

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2). To the extent that the Action relies on the "Description of Related Art" portion of the specification as admitting that it was known prior to applicants' invention to crosslink cellulose fibers, then applicants agree and admit that crosslinking cellulosic fibers was known in the prior art. Applicants do not agree, however, that the specification states that it was known to crosslink cellulosic fibers in such a manner and under appropriate conditions so that the resulting crosslinked fibers have the claimed third insult acquisition rate and centrifuge retention capacity.

The examples provided on pages 34-46 of the specification reveal that the centrifuge retention capacity of a crosslinked cellulose fiber depends on a number of variables, including cure time, cure temperature, type of crosslinking agent, etc. As recited in claim 37, only absorbent articles comprising crosslinked cellulosic fiber having the requisite centrifuge retention capacity (0.48 grams of a 0.9% by weight saline solution per gram of fiber) are claimed. Disclosures in the prior art of crosslinking a cellulosic fiber, or of using a specific type of crosslinking agent (*e.g.*, glyoxylic acid), fail to inherently anticipate the claimed invention because they fail to disclose any conditions (cure time, cure temperature, crosslinking agent, etc.) that necessarily will lead to the creation of crosslinked fibers having the claimed centrifuge retention capacities.

In addition, amended claim 37 is limited to absorbent articles with crosslinked cellulosic fibers having a third insult acquisition rate of less than 10 seconds. Again, certain reaction conditions are necessary in order to achieve the claimed third insult acquisition rate. Prior art disclosures of crosslinked cellulosic fibers, or of using a specific type of crosslinking agent (*e.g.*, glyoxylic acid), fail to inherently anticipate the claimed invention because they fail to disclose or suggest conditions that necessarily will lead to the creation of crosslinked fibers with the claimed third insult acquisition rate. Accordingly, applicants respectfully submit that the admitted art fails to anticipate the presently claimed invention.

Applicants respectfully submit that it would not "have been obvious to adjust the amount of crosslinking agent to obtain the optimum properties," as alleged in the Action, in light of the admitted art. While as a general rule it may be true that it would have been obvious to alter certain variables to achieve optimum properties, this general rule only applies when the variables adjusted are known to be result-effective variables, and only when the prior art suggests that the variables are result-effective variables. There is nothing in the prior art, or in applicants' own specification (other than the portions of the specification that

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are impermissible to rely upon in support of a prior art rejection) that suggests that the amount or type of crosslinking agent has any effect on centrifuge retention capacity. There also is no evidence in the prior art, or in applicants' specification (other than the portions of the specification that are impermissible to rely upon in support of a prior art rejection) that centrifuge retention capacity is a property of a cellulosic fiber that should or could be modified.<sup>1</sup> Applicants therefore submit that the present specification (given the assumption above with respect to the disclosure relied upon in the rejection) fails to render obvious the present claims.

As mentioned above, disclosures in the prior art of crosslinking a cellulosic fiber, or of using a specific type of crosslinking agent (*e.g.*, glyoxylic acid), fail to inherently anticipate or render obvious the claimed invention because they fail to disclose any conditions (cure time, cure temperature, crosslinking agent, etc.) that necessarily will lead to the creation of crosslinked fibers having the claimed centrifuge retention capacities. Furthermore, the cited art further fails to suggest that any of these variables are result effective variables, insofar as third insult acquisition rate and centrifuge retention capacity are concerned, thereby leading a skilled artisan away from modifying the parameters to arrive at the claimed invention.

Koltisko discloses a low density compression resistant cellulosic-based non-woven fabric formed from cellulosic-based fibers that are treated for use in an air laid process. The treatment comprises contacting the cellulose fibers with an aqueous dispersion of a self-crosslinkable polymeric binder and a chemical stiffening agent, and then drying at temperatures that result in intrafiber binding (Abstract). A large group of chemical stiffening agents is disclosed (col. 5, ln. 44 to col. 6, ln. 2). One of the non-preferred chemical stiffening agents listed in this group is glyoxylic acid (col. 5, ln. 56). Koltisko is silent with respect to the centrifuge retention capacity of the so-treated fibers.

The claimed centrifuge retention capacity values are not inherent in Koltisko's disclosure. The examples on pages 34-46 of the specification reveal that fibers treated with glyoxylic acid and then heated do not necessarily have a centrifuge retention capacity within

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<sup>1</sup> Applicants note that some prior art discloses the centrifuge retention capacity of superabsorbent materials (*e.g.*, U.S. Patent No. 6,667,424). This document suggests increasing the centrifuge retention capacity, which is directly contrary to the present invention's desire to decrease the centrifuge retention capacity.

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the claimed range (see, for example, Tables 1-5). Thus, the present specification includes comparative examples that are closer to the present invention than is the disclosure of Koltisko, and they show that the centrifuge retention capacity does not flow, as a matter of necessity, from Koltisko's broad disclosure. Accordingly, Koltisko does not anticipate the presently claimed invention.

Koltisko also does not render obvious the present claims for the reasons stated previously in relation to the admitted art. There is nothing in Koltisko's disclosure that suggests that the amount or type of crosslinking agent has any effect on centrifuge retention capacity. There also is no evidence in Koltisko that centrifuge retention capacity or third insult acquisition time rate are properties of a cellulosic fiber that should or could be modified. Applicants therefore submit that Koltisko fails to render obvious the present claims.

Applicants respectfully request that this rejection be reconsidered and withdrawn.

On page 3 of the Action, claims 37 and 38 "are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Sears, (6,620,293)." Applicants respectfully traverse this rejection.

Applicants respectfully submit that Sears is not available as a § 102(a) or § 103 prior art reference. The Sears reference was published September 16, 2003. The instant application was filed October 28, 2003, claiming priority to U.S. Patent Application No. 10/166,254, filed June 11, 2002. Therefore, the effective filing date of the instant application is June 11, 2002. Because the effective filing date of the instant application precedes the date of publication of the Sears reference, the Sears reference can not qualify as § 102(a) prior art.

Additionally, the Sears reference can not qualify as § 103 prior art. To qualify as prior art under § 103, a reference must be one of the enumerated forms of prior art described in § 102. Under § 102, the Sears reference qualifies as prior art only pursuant to § 102(e). However, because the Sears reference and instant application are commonly assigned to Rayonier, Inc., the Sears reference is not available as a § 103 prior art reference via § 102(e) (see MPEP § 706.02(1)(1); 35 U.S.C. § 103(c)).

Finally, amended claim 37 recites the third insult acquisition rate of the absorbent article as being less than about 10 seconds. Example 9 of the present application includes a

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comparative example that illustrates how practicing the invention described in Sears results in a third insult acquisition rate of more than about 10 seconds. The Sears reference contemplates using Porosanier as one of the mercerized cellulosic pulps to be crosslinked (col. 4, ln. 41) and a mixture of polymaleic acid and citric acid as the crosslinking agent (col. 6, ll. 20-25). The third example in Table 10 of Example 9 of the present application (pg. 45) is prepared according to the disclosure of Sears — Porosanier fiber crosslinked with a mixture of polymaleic and citric acids. The third insult acquisition rate of the crosslinked mercerized fiber prepared according to Sears was 14.0 seconds. Comparatively, the third insult acquisition rate of the four examples prepared according to the present invention (the 4<sup>th</sup> through 7<sup>th</sup> examples in Table 10, all crosslinked with glyoxylic acid) all had third insult acquisition rates less than 10 seconds. Therefore, the Sears reference fails to anticipate the present claims. Accordingly, applicants respectfully request that this rejection be reconsidered and withdrawn.

On page 4 of the Action, claims 39-51 “are rejected under 35 U.S.C. 103(a) as unpatentable over Sears as applied to claim 37<sup>2</sup> above, and further in view of ADMITTED PRIOR ART (Specification “Description of Related Art” and page 24).” Applicants respectfully traverse this rejection.

Again, Applicants respectfully submit that the Sears reference, as discussed above, is not available as a prior art reference under § 103 because commonly assigned § 102(e) prior art is precluded from use as a § 103 prior art reference (see MPEP § 706.02(l)(1); 35 U.S.C. § 103(c)). Additionally, the Sears reference is not otherwise available as a § 103 reference via § 102(a) because the effective filing date of the instant application precedes the filing date of the Sears reference.

Also, applicants respectfully submit that claims 39-51 would not have been obvious over Sears and further in view of the admitted art. The Action states that “[i]t would have been obvious to use the acquisition layer of SEARS between the top sheet and absorbent structure as such is taught by the ADMITTED PRIOR ART.” Additionally, the Action states that “[i]t would have been obvious to use SAP [super absorbent polymer] with the absorbent fibers of Sears to increase the absorption and storage of liquid.”

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<sup>2</sup> The Action states claim 39, but this obviously was a typographical error. Applicants assume the Examiner intended to state claim 37.

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However, as discussed above, the Sears fibers are not the same as the fibers of claims 39-51. The fibers of claims 39-51 all depend from claim 37, which recites "crosslinked cellulosic fibers having a centrifuge retention capacity less than about 0.48 grams of a 0.9% by weight saline solution per gram of fiber and a third insult acquisition rate of less than 10 seconds." Again, as demonstrated in Example 9 of the present specification, practicing the invention described in Sears results in a third insult acquisition rate of more than 10 seconds. Therefore, the Sears fibers are not equivalent to the claimed fibers. Even if the use of the Sears fibers between the top sheet and absorbent structure were obvious, or if use of the Sears fibers with a SAP were obvious, such use would not yield the present invention because the Sears fibers are not equivalent to the fibers of the present invention. Applicants respectfully request that this rejection be reconsidered and withdrawn.

On page 4 of the Action, claims 37-51 "are rejected under 35 U.S.C. 103(a) as being unpatentable over ADMITTED PRIOR ART (Specification "Description of Related Art" and paragraph bridging pages 10-11 and pages 15, 16 and 24) or KOLTISKO et al (5,938,995) or SEARS, in view of [Crow, et al] WO97/04162 or SUN et al (5,858,021) or LEITHAM et al (2002/0096276) or [Crow, et al] (US 2003/0070776)." Applicants respectfully traverse this rejection.

The Action relies on the disclosures of Crow, Sun, and Leitham for teaching "increasing the absorbency of absorbent fibers used in absorbent articles by treating the fibers with alkali." Even assuming that it would have been obvious to use the alkali treatment of the Crow, Sun, or Leitham references with the admitted art, or Koltisko, or Sears, the combination of art still fails to yield the present invention.

Initially, as previously discussed, the admitted art and Koltisko fail to disclose or suggest a crosslinked cellulosic fiber having a centrifuge retention capacity within the claimed range. Thus, even if the Crow, Sun, or Leitham references were combined with the admitted art or Koltisko, the combination would still fail to result in a crosslinked cellulosic fiber having the properties recited in the claims.

Additionally, the examples in the specification of the present application reveal that alkali treated cellulose fibers that are subsequently crosslinked with glyoxylic acid do not necessarily have a centrifuge retention capacity within the claimed range. Example 5 shows that fibers treated with an aqueous solution of 4% (w/w) or 8% (w/w) sodium hydroxide, and

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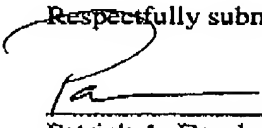
then crosslinked with glyoxylic acid do not necessarily have centrifuge retention capacities within the range recited in independent claim 37. Therefore, the combination of the Crow, Sun, or Leitham references and the admitted art or Koltisko would not necessarily yield the claimed invention.

The Action further states that "it would have been obvious to improve the absorbent properties of the fibers of the ADMITTED PRIOR ART or KOLTISKO using the alkali treatment of WO97/04162 or SUN et al (5,858,021) or LEITHAM et al (2002/0096276) or US2003/0070776." This statement is not technically accurate. Adding an alkali to the fiber prior to crosslinking *decreases* the absorbent capacity and absorbency under load of the fiber (compare samples in Table 5, page 39, at comparable cure times).<sup>3</sup> Adding an alkali to the fiber is believed to accomplish two objectives: (i) cleanse the fiber from residuals after the pulping and bleaching process; and (ii) alter the shape of the fiber from flat to round. Addition of alkali in the present invention does not increase or otherwise improve the absorbent properties of the fibers. The basis for the obviousness rejection therefore is not technically sound. Applicants therefore respectfully request that this rejection be reconsidered and withdrawn.

In view of the foregoing, applicants respectfully submit that the present claims are in condition for allowance. An early notice to this effect is earnestly solicited. Should there be any questions concerning this response, Examiner Alvo is invited to contact the undersigned at the telephone number listed below.

1/27/05  
Date

Respectfully submitted,

  
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<sup>3</sup> For a given curing time, all absorbency under load values were lower when alkali was added, and only one absorbent capacity was higher when alkali were added (at 10 minutes of curing time, absorbent capacity at 0% aqueous NaOH was 15.8 compared to 16.0 at 4% aqueous NaOH, or about 1.25% higher).